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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,399	07/09/2003	Daijiro Kodama	Q76476	8466

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EXAMINER

ANGEBRANDT, MARTIN J

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 09/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/615,399

Applicant(s)

KODAMA, DAIJIRO

Examiner

Martin J. Angebrannt

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear what is meant by "light that diffuse in only a direction crossing at right angles with said section". Does this mean both beams are incident from the same side and the angle between them is orthogonal to the plane of the film or is this the case where one beams is incident from each side ? The diffuse language is particularly confusing as no diffusion element is recited. (claims 4 and 13)

The claims should include a recitation of the interaction of the resultant holograms upon replay, otherwise they fail to patentably distinguish themselves from other angularly multiplexed holograms. (ie the reconstruction filed of view (figure 6) [0049+], moiré fringe generation [0068], color variation with changing viewing angle [0061], etc ...). (claims 1 and 9). Otherwise the claims could fail to define themselves over the prior art based upon the images being treated similarly to "written matter" or a mere design choice. The functionality of the images beyond a mere aesthetic choice of pattern or the like will also reduce the issues standing in the way of patentabililty in terms of rendering some of the prior art les applicable.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 9-13 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Davis et al. '092.

The example taught with respect to figure 1 shows angularly multiplexed holograms of the mirrors 16,17 and 18 with the exposure controlled through shutters 12,13,14 to modulate the beams 24,25,26 using the single reference beam 23.

6. Claims 9-13 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Redman et al. '484.

Redman et al. '484 teach with respect to figure 10, the case where a single reference beam is applied at a constant angle and the object beams are at different angles. (5/1-17).

7. Claim 1-5 and 7-8 are rejected under 35 U.S.C. 102(e) as being fully anticipated by Kodama '014.

Kodama '014 teaches a volume holograms with a transmission hologram and a reflection holograms both in the same holographic recording medium so that they are superimposed upon replay. (1/29-47). The reflection hologram has additional information for authentication (6/37-

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46), such as a serial number (4/33+). See figure 5b. (6/47-7/63). The volume hologram is a photopolymer (4/53-57). The use of full color recording is disclosed. (8/39-47).

The disclosure of the full color embodiment is considered to allow one to immediately envision that embodiment.

8. Claim 1-5 and 7-8 are rejected under 35 U.S.C. 102(e) as being fully anticipated by Kashiwagi et al. '408.

Kashiwagi et al. '408 teach a volume hologram with a transmission hologram and a reflection holograms both in the same holographic recording medium so that they are superimposed upon replay. [0008]. The reflection hologram has additional information for authentication, such as a serial number [0025]. See figures 4 and 7. The volume hologram is a photopolymer (4/53-57). The use of multicolor recording is disclosed. [0027].

9. Claim 1-4 and 7-14 are rejected under 35 U.S.C. 102(e) as being fully anticipated by Kodama et al. '031.

Kodama et al. '031 teach a volume hologram with a transmission hologram and a reflection holograms both in the same holographic recording medium so that they are superimposed upon replay. These include a planar image and a three dimensional image. (1/35-43). The recording a various planar images which replay at the same time is also disclosed with respect to figure 7. (5/40-6/21). See figure 14 (8/29-9/7). The volume hologram is a photopolymer (4/35-54). The use of multicolor recording is disclosed. (4/35-65).

10. Claim 9-14 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Kodama et al. JP 2001-022255. (JP equivalent of Kodama et al. '031)

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Kodama et al. JP 2001-022255 teach a volume hologram various planar images which replay at the same time is also disclosed with respect to figure 7. [0015]. The volume hologram is a photopolymer. The use of multicolor recording is disclosed. [0012-0014]

11. Claim 1-4 and 15-16 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Nishikawa et al. JP-11-024538.(machine translation attached)

Nishikawa et al. JP-11-024538 teach a volume hologram with a two holograms both in the same holographic recording medium so that they replay at the same time including both planar and three dimensional information (figure 4). [0008]. The planar hologram has additional information for authentication, results from a desensitization of the master and may used moire' patterns [0008].

12. Claim 1-5 and 7-14 are rejected under 35 U.S.C. 102(e) as being fully anticipated by Takabayashi et al. EP 1045296.

Takabayashi et al. EP 1045296 teach a volume hologram with a transmission hologram and a reflection holograms both in the same holographic recording medium so that they are simultaneously replayed [0035]. . These include a planar image and a three dimensional image (figures 7 and 11). The recording a various planar images which replay at the same time is also disclosed with respect to figure 7. The volume hologram is a photopolymer [0024]. The use of multicolor recording is disclosed throughout. The planar images are formed by a desensitization as shown in figure 1.

13. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takabayashi et al. EP 1045296, in view of Nishikawa et al. JP-11-024538.

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It would have been obvious to one skilled in the art to modify the teachings of Takabayashi et al. EP 1045296 by using a desensitization which results in moiré fringes upon replay as taught by Nishikawa et al. JP-11-024538 with a reasonable expectation of realizing the increased authentication ability ascribed to this by Nishikawa et al. JP-11-024538.

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kitami JP 62-206582, Anegawa et al. JP 11-277958, Drinkwater et al. '229 and Menz et al. '468 disclose moiré fringes recording in holograms.

Leith et al. '655 and Taylor '251 establish that holographic multiplexing, including angular multiplexing are old and well known.

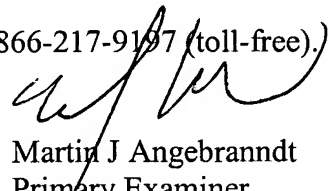
Nishikawa et al. '514 and Kashiwagi et al. EP 1278107 are cumulative to references applied above.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J. Angebranntdt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Martin J Angebrannndt
Primary Examiner
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09/19/2005